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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/661,184	LI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael P. Mooney	2883	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/25/06 Amdt.
2. ☒ The allowed claim(s) is/are 1-10, ~~11-48~~ and 12-49, -mp/m
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date <u>10/27/06</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
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### **REASONS FOR ALLOWANCE**

The following is an examiner's statement of reasons for allowance:

The prior art, either alone or in combination, does not disclose or render obvious a method of optical regeneration including the steps of exponentially amplifying a degraded input signal with a piece of fiber with parametric amplification; and providing gain saturation to the exponentially amplified signal to form a regenerated output signal in combination with the rest of claim 1 for the reasons stated by Applicant in the Remarks section filed 8/25/06.

It is noted that the claim 1 is allowable because the unique combination of each and every specific element stated in the claim.

The prior art, either alone or in combination, does not disclose or render obvious an apparatus comprising a regenerated output signal is generated, wherein the polarization of the CW laser is linear and aligned to have maximal overlap with polarization of the input data and the power of the CW laser is controlled so that the power of regenerated data is independent of the state of polarization of the input data in combination with the rest of claim 7 for the reasons stated by Applicant in the Remarks section filed 8/25/06.

It is noted that the claim 7 is allowable because the unique combination of each and every specific element stated in the claim.

The prior art, either alone or in combination, does not disclose or render obvious an apparatus comprising a pulsed light source wherein the polarization of the pulsed light source is linear; an optical fiber parametric amplifier; and a saturation amplifier

wherein input data is used as the pump for the optical fiber parametric amplifier and output of the parametric amplifier is input into the saturation amplifier in combination with the rest of claim 16 for the reasons stated by Applicant in the Remarks section filed 8/25/06.

It is noted that the claim 16 is allowable because the unique combination of each and every specific element stated in the claim.

The prior art, either alone or in combination, does not disclose or render obvious an apparatus comprising a CW laser; and a fiber with parametric amplification as an exponential amplifier operating in a saturation state, wherein input data is used as a pump for the exponential amplifier in combination with the rest of claim 26 for the reasons stated by Applicant in the Remarks section filed 8/25/06.

It is noted that the claim 26 is allowable because the unique combination of each and every specific element stated in the claim.

The prior art, either alone or in combination, does not disclose or render obvious a pulsed laser source wherein the polarization of the pulsed light source is linear; a parametric amplifier; and a saturation amplifier wherein input data is used as the pump for the parametric amplifier and output of the parametric amplifier is input into the saturation amplifier in combination with the rest of claim 35 for the reasons stated by Applicant in the Remarks section filed 8/25/06.

It is noted that the claim 35 is allowable because the unique combination of each and every specific element stated in the claim.

The prior art, either alone or in combination, does not disclose or render obvious a saturating parametric amplifier, wherein input data is used as a pump for the saturating parametric amplifier and the polarization of the pulsed laser source is linear and aligned to have maximal overlap with polarization of the input data, and the power of the pulsed laser source is controlled so that the power regenerated data is independent of the state of the polarization of the input data in combination with the rest of claim 45 for the reasons stated by Applicant in the Remarks section filed 8/25/06.

It is noted that the claim 45 is allowable because the unique combination of each and every specific element stated in the claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Mooney whose telephone number is 571-272-2422. The examiner can normally be reached during weekdays, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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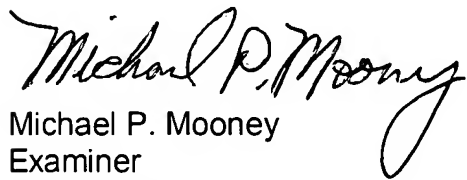
published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).



Michael P. Mooney  
Examiner  
Art Unit 2883



Frank G. Font  
Supervisory Patent Examiner  
Art Unit 2883

FGF/mpm  
11/27/06